

Claims

1. An apparatus (10) for cutting a material (16), in particular fabric or the like, which is cut into appropriate portions, in particular into shaped portions for the manufacture of items of clothing; the apparatus comprising a support frame (12), means to support the material in the form of a work plane (22) for the material (16), above which are one or more mobile cutting units (18) each having a cutting blade (20); the apparatus being characterised in that the work plane (22) supporting the material (16) is made from glass; and in that means are provided which are designed to make this glass work plane elastically yielding.

2. The apparatus according to claim 1 or according to the preamble to claim 1, characterised in that the work plane comprises at least one upper sheet (22a), which is made from glass and forms a support surface (22'a) for the material to be cut.

3. The apparatus according to claim 2, characterised in that the work plane comprises a second sheet (22b) which acts as a means of support for the upper sheet (22a).

4. The apparatus according to claim 3, characterised in that the second lower sheet (22b) is made from glass.

5. The apparatus according to claim 3 or 4, characterised in that the first and second sheets are placed one on top of the other and are joined together.

6. The apparatus according to claim 5, characterised in that the two sheets (22a, 22b) are joined together by means of an adhesive material (23), positioned between the opposite surfaces (22"a, 22"b) of the sheets (22a, 22b).

7. The apparatus according to claim 6, characterised in that this adhesive material consists of PVB.

8. The apparatus according to any one of the foregoing claims from 2 to 7, characterised in that the thickness of the first sheet is between 10 and 14 mm, preferably 12 mm.

9. The apparatus according to any one of the foregoing claims from 3 to 8, characterised in that the thickness of the second sheet is between 10 and 14 mm, preferably 12 mm.

10. The apparatus according to any one of the foregoing claims

from 6 to 9, characterised in that the thickness of the adhesive layer is between 1 and 2 mm, preferably 1,5 mm.

11. The apparatus according to any one of the foregoing claims, characterised in that the thickness of the work plane is between  
5 20 and 30 mm, preferably around 25 mm.

12. The apparatus according to any one of the foregoing claims, characterised in that the outer layer of the glass sheet is harder.

13. The apparatus according to claim 12, characterised in that  
10 the hardness of the outer layer of the sheet is between 800 and 850 HK.

14. The apparatus according to any one of the foregoing claims or according to the preamble to claim 1, characterised in that it also comprises means (27) which support the work plane and which  
15 are designed to support the work plane in such a way that it presents a predefined elastic compliance.

15. The apparatus according to any one of the foregoing claims or according to the preamble to claim 1, characterised in that the support means (27) of the work plane comprise means designed to  
20 support the work plane in such a way that it presents a bending compliance.

16. The apparatus according to any one of the foregoing claims or according to the preamble to claim 1, characterised in that the support means (27) of the work plane comprise axially yielding  
25 means designed to provide an elastic support to the work plane (22).

17. The apparatus according to any one of the foregoing claims or according to the preamble to claim 1, characterised in that the support means of the work plane comprise a plurality of elements  
30 (27) supporting the work plane, which are arranged at a certain distance from each other in such a way as to allow a predefined deflection (f) of the work plane that remains within the range of elastic deformation.

18. The apparatus according to claim 17, characterised in that  
35 this distance (d) between the adjacent supports (27) is substantially between 320 and 400 mm, preferably 360 mm.

19. The apparatus according to any one of the foregoing claims

from 14 to 18 or according to the preamble to claim 1, characterised in that the supports (27) are substantially pointed and distributed along the lower surface of the work plane (22).

20. The apparatus according to claim 19, characterised in that the adjacent supports (27) form the corners of a virtual quadrilateral.

21. The apparatus according to any one of the foregoing claims from 14 to 20 or according to the preamble to claim 1, characterised in that the supports (27) are arranged in transverse lines at a certain distance apart; these lines are parallel to each other and at a certain longitudinal distance apart; the supports (27) being arranged in such a way that the elements in one transverse line are positioned longitudinally between corresponding elements of the adjacent longitudinal line.

22. The apparatus according to any one of the foregoing claims or according to the preamble to claim 1, characterised in that each support element of the work plane consists of a pad (27) made from elastomeric material and designed to provide the work plane with an elastic support.

23. The apparatus according to claim 22, characterised in that each support element of the work plane consists of a pad (27) with a circular cross-section.

24. The apparatus according to claim 22 or 23, characterised in that each pad (27) is supported by a cup-shaped element (29) which holds the lower part of the elastomeric pad (27).

25. The apparatus according to any one of the foregoing claims or according to the preamble to claim 1, characterised in that the cutting blade (20) has a cutting edge (120) with a radius of curvature between 30 and 50 mm, preferably 42,5 mm.

26. The apparatus according to any one of the foregoing claims or according to the preamble to claim 1, characterised in that the cutting blade (20) presents a radial extremity (121) which comes into contact with and cuts the fabric and a first (123) and a second (125) surface converging on the cutting extremity.

27. The apparatus according to claim 26, characterised in that the cutting extremity consists of an arched surface with a radius of curvature between 0,15 and 0,25 mm, preferably 0,2 mm.

28. The apparatus according to claim 26 or 27, characterised in that the converging surfaces slope at an angle of between  $16^{\circ}$  and  $20^{\circ}$ , preferably  $20^{\circ}$ .

5 29. The apparatus according to any one of the foregoing claims, characterised in that it also comprises means which block a corresponding portion of material while it is being cut, these means which block the material to be cut comprising a first (87) and a second (88) roller which roll over the material to be cut and between which the cutting blade extends.

10 30. The apparatus according to any one of the foregoing claims, characterised in that the work plane (22) forms an upper surface on which the material slides.

15 31. The apparatus according to any one of the foregoing claims, characterised in that the work plane (22) acts as a means to counter the cutting blade (20).

32. The apparatus according to any one of the foregoing claims, characterised in that the work plane (22) acts as a means of electrostatic restraint for the material.

20 33. Support plane characterised by being provided as in any one of the foregoing claims.